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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/697,428	10/30/2003	George Verlaan	05032-00043	7731

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EXAMINER

KWON, BRIAN YONG S

ART UNIT	PAPER NUMBER
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1614

DATE MAILED: 10/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/697,428	VERLAAN ET AL.	
	Examiner	Art Unit	
	Brian S. Kwon	1614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2006 and 19 July 2006.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 46-55, 61-76, 85, 86 and 90-92 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 46-55, 61-76, 85, 86 and 90-92 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date. _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1614

DETAILED ACTION

Status of Application

1. By Amendment filed July 19, 2006, Claims 77-84, 97 and 89 have been cancelled and claims 90-92 have been newly added.
2. Claims 46-55, 61-76, 85-86 and 90-92 are currently pending for prosecution of the merits of the instant application.

Summary of Action

3. The rejection of the claims 46-55, 61-76 and 85-86 under 35 U.S.C. 112, first paragraph, is not maintained in light of the amendment.
4. The rejection of the claims 48, 63, 64, 65, 66 and 75 under 35 U.S.C. 112, second paragraph, is not maintained in light of the amendment.
5. The rejection of the claims 46-55, 62-71, 73-76, 85 and 86 under 35 USC 103(a) as being unpatentable over Simone (US 5397786) in view of Thomas et al. (US 5972985), Buchholz et al. (US 6514973) and Hageman et al. (US 6420342 B1) is maintained for the reasons of record.
6. Applicant's amendment adding new claims with limitation of "the one or more minerals are present in an amount between about 1.5 and about 15 g/l...", "the fluid is for treating an ill subject" and "the ill subject is a subject suffering from hypohydration selected from the group consisting of ..." in claims 90, 91 and 92 respectively necessitates a new ground of rejection in this Office Action.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 1614

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459

(1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
7. Claims 46-55, 62-71, 73-76, 85-86 and 90-92 are rejected under 35 USC 103(a) as being unpatentable over Simone (US 5397786) in view of Thomas et al. (US 5972985), Buchholz et al. (US 6514973) and Hageman et al. (US 6420342 B1).

The claims read on fluid composition comprising at least one of methyl amine selected from dimethylglycine and sarcosine in the amount of 0.2-10g/l, one or more digestible carbohydrates in the amounts of 20-75 g/l, and one or more minerals selected from calcium and magnesium, wherein said fluid has an essentially hypotonic osmolarity in the range of 70 to 275 mgOsm/l.

Simone teaches a hypotonic rehydration or nutritional drink, comprises 1 to 30mg of betaine and methionine, choline, 1 to 100g of carbohydrates in the form of monosaccharides, oligosaccharides and/or polysaccharides (e.g., glucose, glucose polymers, ribose, mannose, fructose, galactose, maltodextrin, maltose, etc...), 2 to 2500mg of minerals (e.g., magnesium, calcium, sodium, potassium, etc...), vitamins (e.g., vitamin C, vitamin E, etc...), wherein said composition is useful for treating dehydration symptoms due to exposure to high temperature

Art Unit: 1614

and/or heavy physical exercise, severe diarrhea or vomiting for a variety of causes such as gastrointestinal disorders, cardiovascular disorders, and chronic illnesses such as cancer (column 2, line 45 thru column 4, line 22; Table 1; column 5, lines 37-55; Claims 13-14 and 17-18).

Thomas teaches a rehydration or nutritional solution comprising histidine, vitamins (i.e., vitamin C, ascorbate, vitamin E, beta-carotene, vitamin A), glycerol, minerals (i.e., copper, iron, magnesium, manganese, zinc, iron, selenium) and lipoic acid (abstract; column 7, line 25; column 9, line 60 thru column 11, line 22; column 11, lines 33-35).

Buchholz teaches sarcosine or dimethylglycine as functional equivalent to betaine as a methyl donor (column 3, lines 6-8; column 4, lines 62-65).

Hageman teaches a nutritional composition containing carbohydrates (e.g., ribose, maltodextrin), taurine, alpha-lipoic acid, folic acid, citrate or phosphate in the form of electrolytes (e.g., magnesium phosphate and zinc citrate), vitamins (e.g., B1, B6 and B12), betaine, choline, protein and histidine that is useful for trauma, surgery, cancer, rehydration, cardiovascular or cerebrovascular disorder (Table 1; column 13, lines 22-35; claims).

The teaching of Simone differs from the claimed invention in (i) the use of other methyl amine such as dimethylglycine and sarcosine in said composition; (ii) the specific osmolarity of said composition, "in the range of 70 to 275 mOsm/l" (claim 46); (iii) the specific dry mass content of ingredients in said composition, "a dry mass content of 9 wt% or less" (claim 48); (iv) the specific amounts of active and inactive ingredients in a composition, "the amount of methyl amine being between 01.2-10 g/l" and "the digestible carbohydrate is in the amount of between 20-75 g/l" (claim 46), "the digestible carbohydrate concentration is between 10 and 80 g/l"

Art Unit: 1614

(claim 49), “at least 0.5 g/l of the digestible carbohydrate is ribose or inositol” (claim 50), “fructose and mannose together are present in an amount between 0.05-06 mole per mole glucose” (claim 54), “one or more carbohydrates comprises at least 0.5 g/l ribose, at least 0.5 g/l inositol and/or at least 0.5 g/l galactose” (claim 55), “the mineral concentration is between 0.1 and 30 g/l” (claim 61), “the magnesium concentration is 100mg/l or more” (claim 63), “the zinc concentration is 10mg/l or more” (claim 64), “the calcium concentration is 300 mg/l or more” (claim 65), “the iron concentration is 5mg/l or more” (claim 66), “glycerol is present in a concentration of 0.1-20 g/l” (claim 67), “lipoic acid is present in a concentration of at least 20 mg/l” (claim 68), “taurine is present in a concentration of 0.1-2 g/l and wherein citrate is present in a concentration of 0.2-2 g/l” (claim 71), “caffeine is present in a concentration of 0.1-1 g/l” (claim 72) and “a nitrogen content of less than 3 g/l” (claim 75); (v) the specific mixtures of carbohydrates in a composition; (vi) the specific pH of the claimed invention, “in the range of 2.5-6.8” (claim 74); and (vii) the incorporation of secondary ingredients such as zinc, iron, glycerol, lipoic acid, taurine and citrate in said composition.

However, it would have been obvious to a person skill in the art, at the time of the invention was made, to arrive at the claimed invention containing all the ingredients herein (a methyl amine (source of nitrogen), vitamins, carbohydrates, glycerol, minerals, lipoic acid, etc...). All the ingredients employed herein are known to be useful in preparing rehydration drink or solution. Furthermore, one having ordinary skill in the art would have expected that substitution of betaine with other known methyl donor such as dimethylglycine and sarcosine would provide similar activity of the compound of the reference due to their art-recognized equivalent functional property. Although the instant claims use the different names for the said

Art Unit: 1614

ingredients than those taught in the cited references, these references are particularly pertinent and relevant because all the claimed species and their roles are well taught in the cited reference. Thus, one would have been motivated to combine these references and make the modification because they are drawn to same technical fields (constituted with same ingredients and share common utilities), and pertinent to the problem which applicant concerns about. MPEP 2141.01(a).

In addition, it would have been apparent to those skilled in the art to optimize amounts of known active and inactive ingredients in a composition; the specific pH of the final composition; the dry mass of the ingredients in a composition; the specific mixtures of known digestible carbohydrates (e.g., glucose, fructose, galactose, mannose, ribose, inositol); and concurrent administration regimens as determined by good medical practice and the clinical condition of the individual patient. Determination of the appropriate dosage amounts for treatment involving each of the above mentioned formulations is routinely made by those of ordinary skill in the art and is within the ability of tasks routinely performed by them without undue experimentation, especially in light of the dosage information disclosed herein.

Although the instant claims use the different names for the said ingredients than those taught in the cited references, these references are particularly pertinent and relevant because all the claimed species and their roles are well taught in the cited reference. Thus, one would have been motivated to combine these references and make the modification because they are drawn to same technical fields (constituted with same ingredients and share common utilities), and pertinent to the problem which applicant concerns about. MPEP 2141.01(a).

Art Unit: 1614

With respect to “treating hypohydration”, “for treating an ill subject” and “the ill subject is subject suffering from hypohydration selected from the group consisting of a subject that used a drug having a diuretic action, a subject having a spinal cord injury, a subject in a coma, a subject who is confined to bed and a subject having a kidney dysfunction” in claims 46, 91 and 92 respectively, such statements of intended use or purpose are not limited to the interpretation of the composition claims since the patentability of the product is not dependent upon the manner in which the product is going to be ultimately used. Therefore, the references in combination make obvious the instant invention.

5. Claim 72 is rejected under 35 U.S.C. 103(a) as being unpatentable over Simone (US 5397786) in view of Thomas et al. (US 5972985), Buchholz et al. (US 6514973) and Kampinga et al. (US 6455511 B1) and further in view of Kuznicki et al. (US 5464619). See above 35 USC 103(a) rejection.

The modified teaching of Simone includes all that is recited in claims 25 and 28 except the incorporation of caffeine into said composition.

Kuznicki teaches a rehydration composition containing electrolytes, carbohydrates or carbohydrate derivatives (e.g., fructose, glucose, maltodextrin, glycerol), caffeine and vitamins (abstract, column 4, lines 53-61; column 6, lines 37-44).

To incorporate such teaching into the teaching of Simone, would have been obvious in view of Kuznicki who teaches the use of caffeine in rehydration solution.

Above references in combination makes clear that the use of caffeine in rehydration solution is old and well known. Above references in combination makes clear that the formulation containing diemthyglycine, one or more digestible carbohydrates (e.g., glucose,

Art Unit: 1614

fructose, galactose, mannose, ribose and inositol), minerals, caffeine, glycerol and vitamins are old and well known.

In addition, it would have been apparent to those skilled in the art to optimize amounts of known active and inactive ingredients in a composition. Determination of the appropriate dosage amounts for treatment involving each of the above mentioned formulations is routinely made by those of ordinary skill in the art and is within the ability of tasks routinely performed by them without undue experimentation, especially in light of the dosage information disclosed herein.

Response to Arguments

8. Applicant's arguments filed July 19, 2006 have been fully considered but they are not persuasive.

Applicant's argument takes the position that the cited references, alone or in combination, fail to teach or suggest each and every elements of Applicant's claimed composition, particularly (i) the benefit of using the instant composition for "treating hypohydration" and (ii) the specific osmolality ("osmolality of between 70 and 275 mOsm/l") and the use of "sarcosine or dimethylglycine" required by the instant claims.

This argument is not found persuasive. As discussed above, the statements of intended use or purpose are not limited the interpretation of the composition claim since the patentability of product is not dependent manner in which the product is going to be ultimately used. Therefore, the references in combination make obvious the instant invention.

In response to the applicant's argument that there is no teaching or suggestion in using "osmolality of between 70 and 275 mOsm/l", the examiner recognizes that differences in concentration will not support the patentability of subject matter encompassed by the prior art

Art Unit: 1614

unless there is evidence indicating such concentration is critical. Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable concentration ranges by routine experimentation. Therefore, in absence of showing the superior unexpected results of the composition having the specific osmolarity over the prior art, the examiner maintains that the references in combination make obvious the instant invention.

In response to applicant's argument that there is no teaching or suggestion for the inclusion of sarcosine or dimethylglycine, the examiner recognizes that sarcosine or dimethylglycine is art-recognized equivalents to betaine at the time of the invention was made (as evidenced by Buchholz). Thus, one of ordinary skill would have found it is obvious to substitute a sarcosine or dimethylglycine for betaine.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

Art Unit: 1614

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. No claims are allowed.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Kwon whose telephone number is (571) 272-0581. The examiner can normally be reached Tuesday through Friday from 9:00 am to 7:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ardin Marschel, can be reached on (571) 272-0718. The fax number for this Group is (571) 273-8300.

Any inquiry of a general nature of relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-1600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications may be obtained from Private PAIR only. For more information about PAIR system, see <http://pair-direct.uspto.gov> Should you have any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

Brian Kwon
Primary Patent Examiner
AU 1614

A handwritten signature in black ink, appearing to be 'B. Kwon', followed by a long horizontal line extending to the right.